

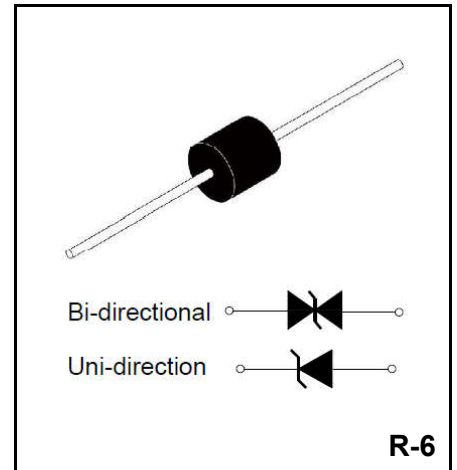
15000W Axial Leaded Transient Voltage Suppressors

P_{PP} 15000W

V_{RWM} 17V~280V

FEATURES

- ◆ Peak power dissipation 15000w @10 x 1000 us Pulse
- ◆ Low profile package.
- ◆ Excellent clamping capability.
- ◆ Glass passivated junction.
- ◆ Fast response time: typically less than 1ps from 0 volts to BV min
- ◆ Typical I_R less than 2uA when VBR min above 36V.
- ◆ IEC 61000-4-2 ESD 30kv(air), 30kv(contact)
- ◆ ESD protection of data lines in accordance with IEC 61000-4-2
- ◆ EFT protection of data lines in accordance with IEC 61000 4-4
- ◆ Halogen free and ROHS compliant
- ◆ Lead-free finish



MECHANICAL CHARACTERISTICS

- ◆ Case: R-6 Molded Plastic
- ◆ Mounting Position: Any
- ◆ Polarity: by cathode band denotes UNI-directional device, none cathode band denotes bi-directional device.
- ◆ Terminal: Solder plated

Maximum Ratings and Characteristics @ 25°C Ambient Temperature (unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---------------------------------------|----------------|-----------|
| Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, FIG.1) | P_{PPM} | 15000 | W |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2) | I_{FSM} | 400 | A |
| Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3) | I_{PPM} | See Next Table | A |
| Power Dissipation on Infinite Heat Sink at T _L =75°C | P_D | 8.0 | W |
| Operating junction and storage Temperature range | T_J, T_{STG} | -55 to +150 | °C |

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.
2. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

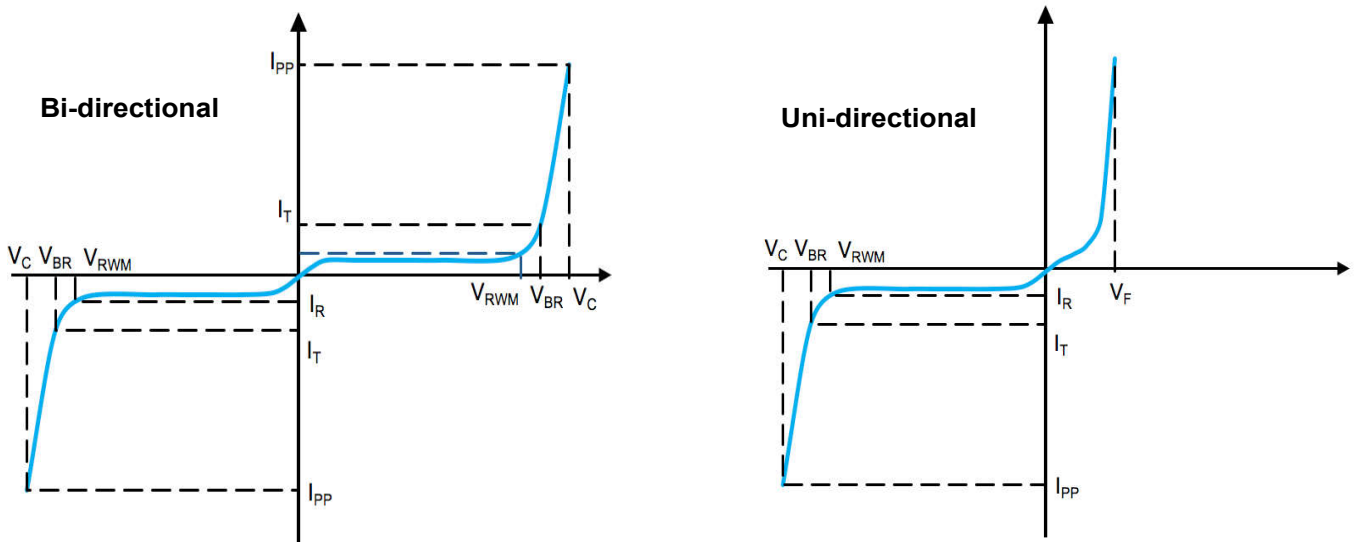
Electrical Specification ($T_A=25@25^{\circ}\text{C}$ unless otherwise specified)

| Type Number | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @ I_T | Breakdown Voltage Max. @ I_T | Test Current | Maximum Clamping Voltage @ I_{PP} | Peak Pulse Current | Reverse Leakage @ V_{RMW} |
|-------------|-----------|---------------------------|--------------------------------|--------------------------------|--------------|-------------------------------------|--------------------|-----------------------------|
| (Uni) | (Bi) | $V_{RMW}(V)$ | $V_{BR\ MIN}(V)$ | $V_{BR\ MAX}(V)$ | $I_T\ (mA)$ | $V_C(V)$ | $I_{PP}(A)$ | $I_R(\mu A)$ |
| 15KP17A | 15KP17CA | 17 | 18.99 | 20.79 | 50 | 29.3 | 515.4 | 5000 |
| 15KP18A | 15KP18CA | 18 | 20.11 | 22.01 | 50 | 30.9 | 488.7 | 5000 |
| 15KP20A | 15KP20CA | 20 | 22.34 | 24.46 | 20 | 34.3 | 440.2 | 1500 |
| 15KP22A | 15KP22CA | 22 | 24.57 | 26.91 | 10 | 37.1 | 407.0 | 500 |
| 15KP24A | 15KP24CA | 24 | 26.81 | 29.35 | 5 | 40.7 | 371.0 | 150 |
| 15KP26A | 15KP26CA | 26 | 29.04 | 31.80 | 5 | 44.0 | 343.2 | 50 |
| 15KP28A | 15KP28CA | 28 | 31.28 | 34.24 | 5 | 47.5 | 317.9 | 25 |
| 15KP30A | 15KP30CA | 30 | 33.51 | 36.70 | 5 | 50.7 | 297.8 | 15 |
| 15KP33A | 15KP33CA | 33 | 36.90 | 40.40 | 5 | 54.7 | 276.1 | 2 |
| 15KP36A | 15KP36CA | 36 | 40.20 | 44.00 | 5 | 59.8 | 252.5 | 2 |
| 15KP40A | 15KP40CA | 40 | 44.70 | 48.90 | 5 | 65.8 | 229.5 | 2 |
| 15KP43A | 15KP43CA | 43 | 48.00 | 52.60 | 5 | 69.8 | 216.3 | 2 |
| 15KP45A | 15KP45CA | 45 | 50.30 | 55.00 | 5 | 72.8 | 207.4 | 2 |
| 15KP48A | 15KP48CA | 48 | 53.60 | 58.70 | 5 | 77.7 | 194.3 | 2 |
| 15KP51A | 15KP51CA | 51 | 57.00 | 62.40 | 5 | 82.9 | 182.1 | 2 |
| 15KP54A | 15KP54CA | 54 | 60.30 | 66.00 | 5 | 87.7 | 172.2 | 2 |
| 15KP58A | 15KP58CA | 58 | 64.80 | 70.90 | 5 | 93.8 | 161.0 | 2 |
| 15KP60A | 15KP60CA | 60 | 67.00 | 73.40 | 5 | 97.4 | 155.0 | 2 |
| 15KP64A | 15KP64CA | 64 | 71.50 | 78.30 | 5 | 104.2 | 144.9 | 2 |
| 15KP70A | 15KP70CA | 70 | 78.20 | 85.60 | 5 | 113.6 | 132.9 | 2 |
| 15KP75A | 15KP75CA | 75 | 83.80 | 91.70 | 5 | 122.0 | 123.8 | 2 |
| 15KP78A | 15KP78CA | 78 | 87.10 | 95.40 | 5 | 126.1 | 119.7 | 2 |
| 15KP85A | 15KP85CA | 85 | 94.90 | 104.00 | 5 | 137.6 | 109.7 | 2 |
| 15KP90A | 15KP90CA | 90 | 100.50 | 110.10 | 5 | 145.6 | 103.7 | 2 |
| 15KP100A | 15KP100CA | 100 | 111.70 | 122.30 | 5 | 161.3 | 93.6 | 2 |
| 15KP110A | 15KP110CA | 110 | 122.90 | 134.50 | 5 | 178.6 | 84.5 | 2 |
| 15KP120A | 15KP120CA | 120 | 134.00 | 146.80 | 5 | 192.3 | 78.5 | 2 |
| 15KP130A | 15KP130CA | 130 | 145.20 | 159.00 | 5 | 208.3 | 72.5 | 2 |
| 15KP150A | 15KP150CA | 150 | 167.60 | 183.50 | 5 | 241.9 | 62.4 | 2 |
| 15KP160A | 15KP160CA | 160 | 178.70 | 195.70 | 5 | 258.6 | 58.4 | 2 |
| 15KP170A | 15KP170CA | 170 | 189.90 | 207.90 | 5 | 272.7 | 55.4 | 2 |
| 15KP180A | 15KP180CA | 180 | 201.10 | 220.10 | 5 | 288.5 | 52.3 | 2 |
| 15KP200A | 15KP200CA | 200 | 223.40 | 244.60 | 5 | 319.1 | 47.3 | 2 |
| 15KP220A | 15KP220CA | 220 | 245.70 | 269.10 | 5 | 356.0 | 42.4 | 2 |
| 15KP240A | 15KP240CA | 240 | 268.10 | 293.50 | 5 | 384.6 | 39.3 | 2 |
| 15KP260A | 15KP260CA | 260 | 290.40 | 318.00 | 5 | 416.7 | 36.2 | 2 |
| 15KP280A | 15KP280CA | 280 | 312.80 | 342.40 | 5 | 454.5 | 33.2 | 2 |

※ For Bi-directional type having V_{RWM} of 30 Volts and less, the I_R limit is double.

※ For parts without A, the V_{BR} is $\pm 10\%$ and V_C is 5% higher than with A parts.

I-V Curve Characteristics



- P_{PPM}** Peak Pulse Power Dissipation - Max power dissipation
- V_{RWM}** Reverse Stand-off Voltage - Maximum voltage that can be applied to TVS without operation
- V_{BR}** Breakdown Voltage – Maximum voltage that flows though the TVS at a specified current (I_T)
- V_C** Clamping Voltage – Peak voltage measured across the TVS at a specified I_{PPM} (peak impulse current)
- I_R** Reverse Leakage Current – Current measured at V_R
- V_F** Forward Voltage Drop for Uni-directional

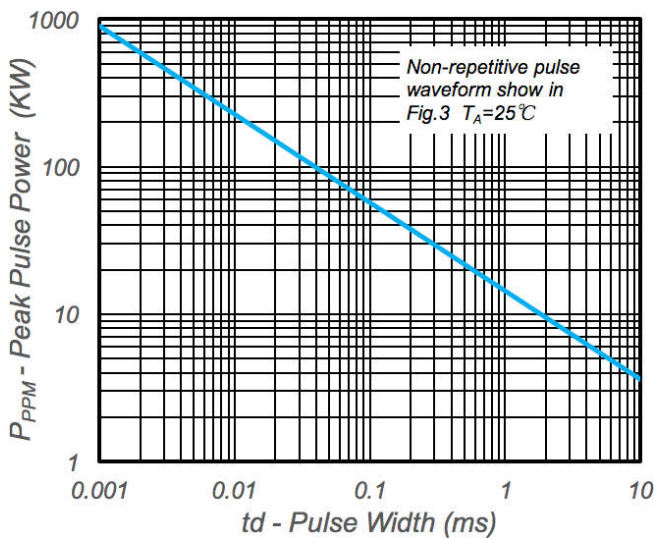


Fig.1 - Peak Pulse Power Rating

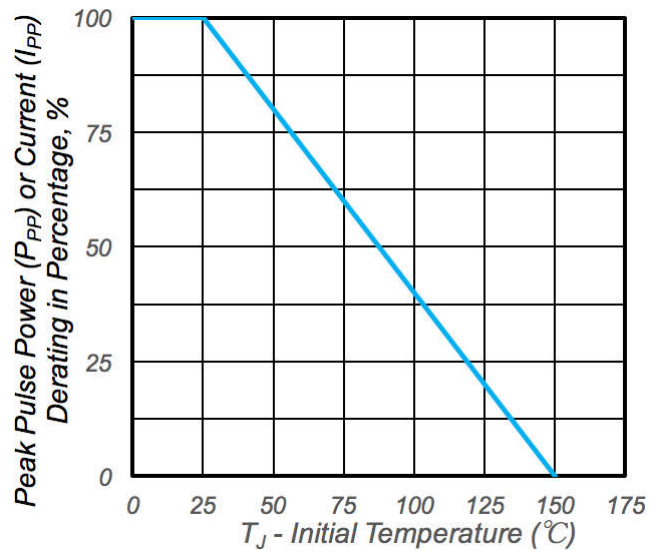


Fig.2 - Pulse Derating Curve

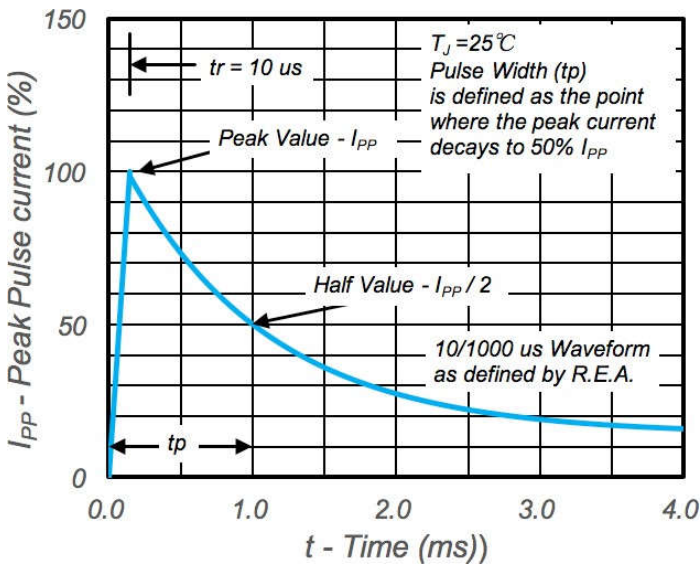


Fig.3 - Pulse Waveform

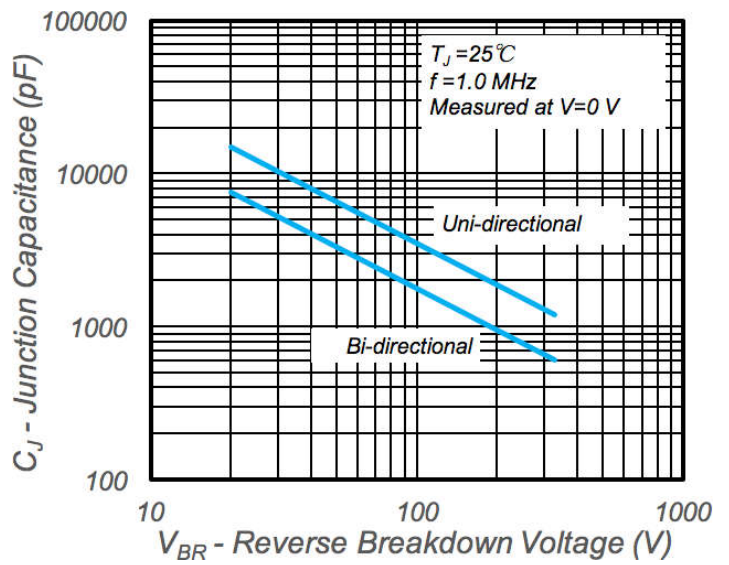
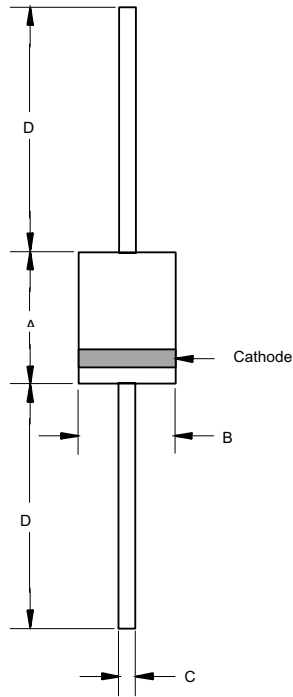


Fig.4 - Typical Junction Capacitance

Package Outline R-6



| DIMENSIONS | | | | | |
|------------|--------|------|-------|------|------|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | .340 | .360 | 8.60 | 9.10 | |
| B | .340 | .360 | 8.60 | 9.10 | |
| C | .048 | .052 | 1.20 | 1.30 | |
| D | 1.000 | --- | 25.40 | --- | |

Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| R-6 | BOX | 300 | EIA-481-1 |